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ARI PESKOE INTERVIEW

Hi, and welcome to GridTalk. In mid-May, the Federal Energy Regulatory Commission, FERC, issued some new rules that are supposed to spur massive development of long-needed transmission lines. This comes at a time when the utility sector is spending tens of billions of dollars on upgrading infrastructure and we thought it would be important to turn to Ari Peskoe who's Director of the Electricity Law Initiative at Harvard Law School to assess what's being attempted, what has been attempted, and its likelihood for success.

Q: Hi, Ari. Thanks for joining us.

A: Thanks so much for having me.

Q: So, let's start at the headlines. FERC issued its new policy just several days ago. What's your read of it? Is it exactly what is needed? Will it get the job done? And then let's get into the weeds.

A: Yeah, so FERC is trying to motivate the industry to develop high-voltage transmission lines and to work together on that

development through existing regional alliances that utilities have and the real problem is that as you mentioned in the opening, there's been tens of billions of dollar a year spent on transmission but much of it has gone to rebuilding last century's infrastructure which is an important endeavor. Obviously, we need to keep the system working but we also need to think about ways to expand it in a cost-effective way and that's what FERC is trying to do here.

Q: So, *The New York Times* article that brought you to my attention, that reporter on this FERC announcement reports that there are 11,000 wind, solar, and battery projects in limbo because of the lack of transmission. What's your sense of that bottleneck? How big is it? How unprecedented it is and do you see a path for working our way through it?

A: Yeah, so there are, as the article says, massive amounts of generation, mostly clean generation, stuck in these interconnection lines or interconnection queues. FERC has taken a two-pronged approach to try to address these long lines and last year issued a rule trying to streamline the interconnection process, that is, when there's a generator that wants to connect to the transmission network, has to be studied either by the utilities or by the regional transmission organization to make sure that the existing network can

accommodate the new energy being provided to the system, and if it can't, then the generators may have to pay for upgrades to the exiting network. Those processes are way to slow and they don't fairly assign the cost of those network upgrades, so FERC tried to tackle that issue last year. This year's rule, the one that just came out, Order No. 1920 is trying to urge the industry to be more forward thinking that rather than reacting to these generators on a project-by-project basis, let's look at the broader trends, the long-term trends that we're seeing, both in the supply mix changes as well as the potential for increasing demand due to electrification and other factor and plan holistically going forward to anticipate the future needs rather than doing what we have been doing in the industry which is just a sort of reactive piecemeal planning that is inefficient and costs consumers billions of dollars, so is it all going to work? Unfortunately, I can't give you a solid prediction on that. A lot of this hinges on how the industry itself implements it and how seriously they take these problems versus how much they want to just fall back on their old ways.

Q: So, let's talk about those old ways and you in an article referred to a 2011 plan by FERC with similar intentions that you quite bluntly said was unsuccessful largely because utilities, some utilities, oppose long-distance transmission lines that

would undercut their monopolies. Can you talk a little bit more about why better transmission might be against the interests, the business interests of some incumbent utilities?

A: Yeah, so the electric industry is bizarre in that it's dominated by monopolies. It used to be that these monopolies would have; they all have monopolies on local delivery to consumers, that is the wires that go up and down your street. In your neighbor those are all owned by your local utility and for about three-quarters of Americans, that utility is an investor-owned utility; it's a multi-billion dollar, publicly traded corporation. Those companies also have dominant positions on the bulk power system, that is the series of high voltage interstate lines that moves large amounts of energy and then in about 30+ states, those utilities also have dominant positions in the power plant market as well, that is they own most of the power plants in the area and so one reason we need transmission is to move energy from distant areas where it can be generated cheaply because we have great wind and solar resources in this country and we just need to buildout the network to tap those resources and then move that low-cost energy to where people need it and when we do that, we also need more connectivity across existing networks because we already have a system that is so dominated by weather. We see demand goes up, whether it's very cold or

very hot, we need more energy available to accommodate those increases in consumer demand. We know storms can be disruptive on our system and when we add more renewable energy to the system, we need more connectivity to make sure when the wind's not blowing in one area, we can move the energy from somewhere else. And we know we need all this but it can, that increase in connectivity can undercut the local dominance that the utility has and it may benefit from the fact that it has a dominate position in a local power market and the more energy you can bring in from elsewhere, especially if it's low-cost energy, you may be undercutting the utility's existing perhaps aging fleet of power plants. And not only that, but utilities typically want to be the only or the dominant transmission owners in the region. That gives them some control about how the system develops. The more players that participate, the more that they just lose control over how our interstate, high-voltage systems develop in the future.

Q: So, these veteran utilities that touch three-quarters of us are very rich and very powerful politically. What would it take to encourage them or give them new business models on financial incentives so that they would change their position and be further aligned with where FERC thinks we needed to be headed?

A: Yeah, I would just say one quick caveat on that three-quarter's number. Three-quarters touch us directly in that their lines go right into our houses but for much of the rest of the country, the utilities still have a dominant presence on the bulk power system that ultimately serves just about everyone and so if the utility industry has historically been very resistant to changing its business model. The utility business model is to have a monopoly and to spend money and to recover all the costs you spend through local rates as well as earn a return on your capital expenses and that's regardless of performance. This sort of; the main benefit of this traditional regulatory model is that incentives the utility to spend money and that was a great business model when the goal was to electrify the country and when the realities of the industry were that costs were declining on a long-term basis so utilities basically were efficient almost by accident because that was the nature of how the technology was developing. That's no longer the case and so now we have this problem of how do we make the system more efficient? How do we sort of squeeze more energy out of the infrastructure we already have? How do we make sure that we are able to use new technologies that can help us shift energy during different periods of the day to make sure again we sort of getting the most out of our existing infrastructure, and

utilities have historically been very poor at that. They haven't had a lot of incentive to become more efficient and they've been resistant to new business models that would encourage efficiency and it's one reason why that for the past 30 or so years, regulators at both the federal level, at FERC, as well as some state public utility commissions, have been trying to introduce competition into various segments of the industry and again, we've seen pushback of course from utilities when that happens.

Q: So, let's focus on something you said here which seems like an opportunity which is, the government is spending tens if not hundreds of billions of dollars on the grid right now through massive and unprecedented really engagement in infrastructure development. You alluded correctly that utilities have been experts at capital formation. They knew how to assemble massive amounts of funds to get expensive projects built in return for the rewards of being a protected monopoly. Is there a way to align this and get less of a government role and more of utility and industry involvements and embrace of where the transmission and business model needs to go? You're an expert on policies. What kind of policies would encourage that?

A: Yeah, I mean I think that private industry today still deploys more capital than the federal government does. There has been some investment in transmission under recent laws like the

Inflation Reduction Act and the Bipartisan Infrastructure bill from a few years ago but most of that money went to sort of tax credits for generators and very little of it; I mean, a few billion went to transmission investment.

Q: My understanding, Ari, is under the Bipartisan Infrastructure Law, DOE is directing $65 billion dollars for clean energy transmission. That's not chump change.

A: Yeah, to be honest I've seen that fact sheet several years ago. On the lowest pass, I don't know what that 65 billion refers to. I know sort of, there was some financing authority that went to some of the big public power entities like Bonneville Power got a chunk of financing. There was a couple billion for new merchant transmission lines which are non-utility investments in the transmission system that the federal government has been supporting and that's been I think meaningful. And I would love to see more money from Congress to support those sorts of projects going forward that are not driven by utility service territories and utilities protecting their monopolies. It's private investors come in and identify an opportunity to connect typically an area where we can generate clean energy very cheaply to where those load centers are, and there have been a number of projects that one of their challenges is just getting their financing in order because it's

a relatively new business model and the federal government has stepped in with loans and other sorts of way to support those projects. That's a few billion and then there's about 10 billion or so what I think are called RIT projects which, of course, I forget what the acronym is exactly, but it's designed to be innovative projects to boost local reliability or resilience of the system. We've seen a lot of great proposals come in, money going out the door for those projects as well and I think there's a real argument I think for a lot more public financing for what really is a public good, this infrastructure that feeds all of us but…

Q: Okay, be that as it may, Ari, this conversation we're having is very important because there's an unprecedented infusion of financial resources right now and as we talked about at the top, 11,000 projects waiting because of the morass we're in. Let's just look at this from the 30,000-foot level; I mean there are three major grid systems in the country. *The Times* article points out, there are 12 regions, transmission regions that are not necessarily interconnected and that interconnections between them is not the object of this new FERC policy so is it possible to integrate this better? Don't we have the digital technology to have one seamless grid; let's just start with that?

A: So, it's certainly possible and I think what stands in the way of really historic utility alliances, you mentioned the dozen or so planning regions, those are really alliances of utilities; some of them date back almost a century and most of them much more recent than that and they have had historically little incentive to robustly connect to each other because again, that might undercut their local monopolies as we talked about. I think the best proposal for how to connect these regions better has been on the table in Capital Hill now for a year or so. It's called the Big Wires Act and it would empower FERC to run a process that would require each of these dozen or so regions to have a certain amount of minimum connectivity between each other. It may not be a perfect number; just kind of figure out what is the sort of right amount but the law just says it should be 30% of the peak load of each region should be able to flow back and forth and I think that's the sort approach that just sort of exists outside of the utility-dominated planning processes we have to say, just comes in from over the top and says you have to make yourselves better connected than you have been because you haven't done it.

Q: This is a FERC proposal or proposed legislation?

A: Proposed legislation that FERC would then implement it if it were passed by Congress.

Q: Who's backing it? Who are the senators and house members who are championing this, and what does an industry group like Edison Electric Institute say?

A: Yeah, so it's Senator Hickenlooper from Colorado and Representative Peters from California I believe are the ones spearheading this initiative. I don't know if there are other supporters at this point. There have been several sort of…for those that follow Capital Hill more closely than I do, there were several sort of budget controversies where we're almost going to shut down the federal government and then we have some last second deal come in and this bill was almost part of one of those last-second deals but was scuttled as I understand it by the southeastern utilities who are often responsible for scuttling transmission bills on Capital Hill because they simply don't believe in this sort of increase in connectivity because it undercuts their monopolies and so they helped get rid of this and instead of what we got in federal law is a two-year study process on the value of interregional transmission, which has already been very well studied and very well analyzed.

Q: So, who is pressuring this legislation? Would it be renewable manufacturers of consumer groups? Environmental groups? Who are the main pressures behind it?

A: Yeah, I mean it's all the groups that you mentioned. Certainly, this would be good for clean energy but it would also be good for consumers. Every winter now, it seems like we have some major storm event that has consequences for our interstate power system and the Lawrence Berkley National Lab now puts out this study; they've done it a couple of times that shows the value of interregional connections just from those single annual events that we seem to have and across the country, it's billions of dollars for each one of these events so the consumer savings over time would be massive because the status quo is just leading the blackouts and in some cases, and certainly causing a lot of unnecessary consumer costs.

Q: So, I have you on as a policy expert and not a technology expert, but I want to ask you about advance conductors and the promise of possibly the amount of electricity that can be carried on existing lines. How imminent is this? How costly would it be? Is ready for prime-time, or is it a decade out?

A: Yeah, I mean I don't want to pretend to be an engineer but I can answer this from a policy perspective and say that these sorts of reconductoring projects are one of the big winners from the new FERC rule we started out talking about.

Q: The current one or the one from 2011?

A: The new one, Order No. 1920.

Q: Okay.

A: One of the big issues in the rulemaking process was whether or not new regional transmission projects would be developed through competitive processes or whether they would be automatically awarded to the local utility. FERC decided that for these sort of upgrade projects that you're talking about, in FERC-speak, these are called rightsizing projects. The idea of rather than simply rebuilding existing infrastructure, the utility use that existing right-of-way and actually upgrade the infrastructure by increasing the capacity of the line and what the rule says is that utilities can do those upgrades and they will not be subject to competition. This is something the utility industry obviously wanted and it should incentivize them to look more carefully at these at what they had been doing which is simply rebuilding old infrastructure and now consider upgrading it because they know they can (A) It's going to be more capital costs for them so that's good for their bottom lines; they won't face competition and these are much easier projects to pull off than greenfield projects because you're using an existing right-of-way so there's less environmental permitting typically. There's presumably less local opposition again because you're using that existing right-of-way so I think the fact that FERC exempts these projects from competition is

really going to motivate utilities to find opportunities for these sort of upgrades.

Q: Do you see any sign yet that utilities are rushing in to take advantage of this?

A: Well, it's still too early. The rule is going to take just the way FERC rules work is that FERC issues the rule that just happened and that triggers about a yearlong process where each one of these regional alliances will figure out precisely how they want to comply with FERC's rule and then have to file that plan with FERC and then FERC will approve or disapprove it so we won't actually see any actual planning under this rule for some time but I do think again, my strong suspicion is that these sort of strong reconductoring projects are a real big winner from this FERC rule.

Q: So, help us, I mean, this is important, help us assess the potential here because as you rightly point out, building new transmission lines are a flashpoint for political controversy often. Farmers may or may not want it. People don't want these lines marching through cities. If this technology is ubiquitously rolled out, would it totally eliminate or largely eliminate the need for new transmission? Could we get by with maybe 25% of the transmission we would otherwise need to build?

Give us a sense of magnitude here of how important could this be?

A: Oh, I think it's important but it's a both "and" because we do still need to extend transmission to new places to be able to tap in to the rich resources we have in this country for wind and solar so we still need those expansion projects but upgrades are important to make, to make sure that we can deliver more power to where it's needed whether it's a new data center for example or a new factory or just greater demand from consumers like you and me because we may have electric vehicles or we may switch to electric heating in our home, or whatever, so I think these projects play a pretty important role in making sure we can meet consumer demand but they don't displace the need for expanding the grid, and both increasing interconnectivity between regions as we talked about and also just stretching out to new places where we have these resources we need to be tapping.

Q: So, Ari, this conversation's fascinating and I think a lot of people really want to know a lot about what you do. Tell us what the Law Initiative, the Electricity Law Initiative is all about. Why it resides in the Harvard Law School and what do you do; what's your job?

Q: Yeah, so the Electricity Law Initiative is of course is interested in the legal architecture of our power systems and we sort of start with the premise that the foundational laws that govern utilities are about a century old at the state and federal level and like the utilities themselves, have been sort of resistant to change and so it's a matter of understanding these laws in ways that can be compatible with the modern needs that we have and the modern technologies we have and make sure we're taking advantage of them and identifying opportunities for a forum where it's needed, so that's kind of our guiding approach. Over the past several years I've been very interested and involved in FERC's transmission rulemaking process in greater oversight over electric utilities to make sure that they're spending our transmission dollars wisely and there's appropriate oversight for that and also very interested in just how the industry makes decisions; that is, if we're dissatisfied with where the industry is heading, it's because in part we don't like who's making those decisions and why they're making them and we ought to make sure we have the right institutions that are forward looking and benefit consumers rather than utility shareholders, so those are my main areas of focus.

Q: Is this a hot area at Harvard Law? Do you have lots of the brightest minds in your law school migrating in and wanting to have a piece of this?

A: I'm fortunate to say we have very interested students here. Of course, I always wish there were more interested students than we do have but it is great to see that we've have graduates go on to work at places like the Federal Energy Regulatory Commission and as well as having important roles in industry as well.

Q: So, the last question that I'd really like you to dwell on, Ari, is what is this current moment like in terms of potential for dramatic change? We've got climate change; the solutions that are going to be required are big. It's going to take massive spending which seems to be starting to break at least in the United States in a major way but we've got all these roadblocks and hurdles and as you say, century-old policies. We've got the Environmental Protection Agency now under the Inflation Reduction Act, giving out $4.6 billion dollars to communities across the country to innovate on sustainability, and I'll tell you I'm sitting here in Kansas City and the city manager came up with a plan of putting the largest municipal solar array at our newly redesigned airport and I have not been able to have a conversation with Evergy about it but they kind

of treat it like a hot potato of, 'Gee, it's a nice idea; we're committed to solar but we don't know what to do with this.' How do we get granular policies in place that changes the system so all of this intent with massive spending starts clicking and we start moving at a faster pace that we need to go?

A: Yeah, it's a big job and it requires sustained commitment. Unfortunately at the national level, we haven't had that commitment because the reality is that we really only have one party's that's been committed to clean energy policies and we have a government that seems to shift back and forth and so, the utility industry itself has historically been slow-moving; doesn't lead on clean energy issues and so that's left somewhat of a divide among states, where we have some states that are trying to figure this out, that are trying to be aggressive on a number of different policy fronts and other states that are not and so, unfortunately, that's where we are. It would be great if we had some clear direction from Congress that would remove a lot of controversy about big issues like transmission development even if we didn't have the dollars; if we had a clear mission about expanding the transmission system, if we had some reasons why that were articulated to the country and articulated to the industry, I think that would be hugely helpful in making sure that FERC's rulemaking is implemented in

a robust way and that this is really meaningful and that this isn't just a moment but a start of something bigger.

Q: Are you optimistic, is it coming? I mean and I guess underlying that question is to what extent is this transformation inexorable? FERC issues a policy, even if there's a change in the White House, that's going to be debated and implemented and might be changed on the margins but is there a forward direction here that's irrespective of political winds?

A: I hope so, I mean there are over the past 30 years, the power sector has changed to bring in a lot of other investors and interests into it, it's not just utilities anymore and so it may change some of the political dynamics. Now, there's been a lot of media coverage over the past year or so about increases in demand for power, again because of electrification, artificial intelligence, etc., so something has to change. We can't just be stuck in the 20th century and so, hopefully that's enough to at least push some initiatives forward and I hope we do it in a way that is beneficial for clean energy as well as consumers, but it's going to take I think some strong efforts by utility regulators because again, this is a monopoly industry and so, it's unlike other sectors of our economy, though I do think we need some strong government leadership here.

Q: Thanks, Ari.

A: Thank you.

We've been talking to Ari Peskoe who's Director of the Electricity Law Initiative at Harvard Law School.

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